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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/697,073	10/29/2003	Sashikanth Chandrasekaran	50277-2318	8113

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EXAMINER
NGUYEN, VAN H

ART UNIT	PAPER NUMBER
2194	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/23/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>29 October 2003</u>.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-59</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-59</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date <u>03/11/2004</u>.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

DETAILED ACTION

1.   This communication is responsive to the application filed 10/29/2003.

Claims 1-59 are currently pending in this application.

Oath/Declaration

2.   The Office acknowledges receipt of a properly signed Oath/Declaration submitted

10/29/2003.

Information Disclosure Statement

3.   The Applicants' Information Disclosure Statement, filed 03/11/2004, has been received,

entered into the record, and considered. --

Specification

4.   Examiner requests that Applicant review the application carefully for informalities

including typographical errors.

The title of the invention is not descriptive. The title should be as "specific as possible" 37

CFR 1.72 while not exceeding "500 characters in length". The title should provide

"informative value" and serve to aid in the "indexing, classifying, searching" and other

Official identification functions. A new title is required that is clearly indicative of the

invention to which the claims are directed. MPEP606.01

Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a

separate sheet within the range of 50 to 150 words. It is important that the abstract not

exceed 150 words in length since the space provided for the abstract on the computer tape

used by the printer is limited. The form and legal phraseology often used in patent

claims, such as "means" and "the," should be avoided. The abstract should describe the

disclosure sufficiently to assist readers in deciding whether there is a need for consulting

the full patent text for details.

The language should be clear and concise and should not repeat information given

in the title. It should avoid using phrases which can be implied, such as, "The disclosure

concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

The abstract of the disclosure is objected to because the abstract **repeats information**

given in the title. Correction is required. See MPEP § 608.01(b).

Claim Rejections - 35 USC § 101

5.   35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1-59 are rejected under 35 U.S.C. 101 because the claimed invention is directed

to non-statutory subject matter. The current focus of the Patent Office in regard to

statutory inventions under 35 U.S.C. § 101 for method claims and claims that recite a ·

judicial exception (software) is that the claimed invention recite a practical application.

Practical application can be provided by a physical transformation or a useful, concrete

and tangible result. No physical transformation is recited and additionally, the final result

of the claims is not a useful, concrete and tangible result.

Claims which are broad enough to read on statutory subject matter or on non-statutory

subject matter are considered non-statutory. Cf. In re Lintner, 458 F.2d 1013, 1015, 173

USPQ 560, 562 (CCPA 1972) ("Claims which are broad enough to read on obvious

subject matter are unpatentable even though they also read on nonobvious subject

matter.") During prosecution, applicant can amend to limit the claims to statutory subject

matter.

Claim Rejections - 35 USC § 102

6.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the

basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed
in the United States before the invention by the applicant for patent or (2) a patent granted on an application for
patent by another filed in the United States before the invention by the applicant for patent, except that an
international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this
subsection of an application filed in the United States only if the international application designated the United
States and was published under Article 21(2) of such treaty in the English language.

Claims 1-11, 14, 19-20, 22-32, 35, 40-41, 43-51, 53-57, and 59 are rejected under 35

U.S.C. 102(e) as being anticipated by **Kampe** (US 6,618,805).

As to claim 1:

Kampe teaches a computer implemented method for communicating data in a clustered

computing system *(a cluster 100 contains three nodes 102, 104 and 106. Each node is a*

processing location within the computer system...nodes in a cluster are all members of

the same cluster and acknowledge the same cluster master. Similarly, nodes in a cluster

can all exchange messages with one another through a messaging service that is

interoperable between domains) [see col.3, lines 60-65; col.7, lines 27-33; see also,

Figs.1 and 10 and the discussion beginning at col.3, line 60 and col.11, line 47], the

method comprising:

detecting an occurrence of a first event at a first node of the system; detecting an

occurrence of a second event at the first node of the system; determining that the first

event is identical to the second event, and the occurrence of first event and the occurrence

of the second event are therefore a first occurrence and a second occurrence of an

identical event; appending a notification including the information describing the

identical event onto an existing message, wherein the notification is appended only once

for both the first occurrence and the second occurrence, the notification is not appended

twice, once for each occurrence, and the message was destined to be propagated to a

second node; and propagating the message along with the information describing the

identical event to the second node *(Within the availability management system, an*

availability manager receives various reports on the status of components and nodes

within the system. The availability manager uses these reports to direct components to

change state, if necessary, in order to maintain the required level of service. Individual

components may report their status changes, such as a failure or a loss of capacity, to the

availability manager via in-line error reporting. In addition, the availability management

system contains a number of other elements designed to detect component status changes

and forward them to the availability manager...Error messages and other types of events

are reported through different inputs into the components of the availability management

system 120. Event and error reports are consolidated for final decision-making in the

availability manager 405. The availability manager 405 outputs 480 component state

messages and state change information to accomplish the management tasks of the

availability management system 120. The availability manager 405 receives component

error reports from other components n the system and passes current state information,

including these component error reports, to orchestration agent 406. Orchestration agent

406 passes new target configuration information to availability manager 405.

Configuration data, including a succession of target configurations is sent from

configuration data 407 to orchestration agent 406...Error messages and other types of

events are reported through different inputs into the components of the availability

management system 1120. Event and error reports are consolidated for final decision-

making in the availability manager 405. The MCEC 1010 and the cluster membership

monitor 1120 report to the availability manager 405. This information includes, without

limitation, membership events and component states from cluster membership monitor

1120 and further includes, without limitation, component error reports from Multi-

Component Error Correlator 1110. The availability manager 405 outputs 1180

component state messages and state change information to accomplish the management

tasks of the availability management system 120... Individual components report specific

errors to the MCEC 1010 in multiple ways. Non-specific error event reports 1132, which

may not have a known correlation to any specific component, are sent to the MCEC

1010. In-line error detection 1120 takes place while a component is performing tasks.

During the performance of a task, an error is detected by the component and the MCEC

1010 is notified of the particular component status change by the component directly.

Additionally, a component may perform periodic self-audits 142, which are performed at

specified intervals whether the component is performing a task or is currently idle.

Errors detected during component audits 1142 are reported to the MCEC 1010 as

component status change reports. A health monitor 1140 aids in the performance of

component-specific audit functions...all error reports from all components (both specific

and non-specific) are sent to the MCEC 1010. This provides a centralized decision

making location...The MCEC 1010 is a rule-based event filter... The MCEC 1010 filters

out stale, redundant, and misleading event reports to avoid unnecessary or ineffective

error messages being sent to the availability manager 405. For example, if ten different

components all report the same event to the MCEC 1010, only one error message needs

to be passed along to the availability manager 405. In another example, the MCEC 1010

can also perform temporal correlations on event messages to determine that a particular

error message to the availability manager 405 is not having the desired effect. If the

MCEC 1010 discovers that the same component has failed a successive number of times,

the MCEC 1010 may report an entire node failure to the availability manager 405) [see

the discussion beginning at col.4, line 60].

As to claim 2:

Kampe teaches the message was generated for purposes other than sending information

appended *[see the discussion beginning at col.13, line 5].*

As to claim 3:

Kampe teaches comparing information that describes the first event with information that describes the second event to determine whether the first event and the second event are identical; and the method further comprising if the two events are identical, then indicating that the information that describes the second event no longer needs to be retained *[see the discussion beginning at col.13, line 5]*.

As to claim 4:

Kampe teaches setting an identifier indicating that the information describing the identical event is to be appended onto a message and propagated to a particular node *[see the discussion beginning at col.13, line 24]*.

As to claim 5:

Kampe teaches said clustered computing system comprises a database management system) *[see Figs.1 and 10 and the discussion beginning at col.3, line 60 and col.11, line 47]*.

As to claim 6:

Kampe teaches said clustered computing system comprises a shared-disk database system *[see Figs.1 and 10 and the discussion beginning at col.3, line 60 and col.11, line 47]*.

As to claim 7:

Kampe teaches said clustered computing system comprises a shared-cache parallel

database management system *[see Figs.1 and 10 and the discussion beginning at col.3,*

line 60 and col.11, line 47].

As to claim 8:

Kampe teaches said clustered computing system comprises a shared-nothing database

management system *[see Figs.1 and 10 and the discussion beginning at col.3, line 60 and*

col.11, line 47].

As to claim 9:

Kampe teaches said clustered computing system comprises a distributed database

management system *[see Figs.1 and 10 and the discussion beginning at col.3, line 60 and*

col.11, line 47].

As to claim 10:

Kampe teaches searching a shared-memory event buffer having a size that is fixed *[see*

the discussion beginning at col.13, line 24].

As to claim 11:

Kampe teaches the message has a fixed size, and the method further comprises:

appending additional information that describes additional events onto existing message

traffic until free space in the fixed-size message is filled *[see the discussion beginning at*

col.13, line 48].

As to claim 14:

Kampe teaches an in-memory hash index is used to determine if an event exists in a

shared-memory event buffer *[see col.4, lines 19-29 and col.11, lines 47-5; see also, the*

discussion beginning at col.13, line 24].

As to claim 19:

Kampe teaches maintaining the information that describes a plurality of events *[see the*

discussion beginning at col.13, line 24].

As to claim 20:

Kampe teaches maintaining the information that describes the plurality of events in a

shared-memory event buffer *[see col.4, lines 19-29 and col.11, lines 47-5; see also, the*

discussion beginning at col.13, line 24].

As to claims 22-32, 35, and 40-41:

Kampe teaches use of a computer-readable medium and one or more processors *[see*

col.4, lines 19-29 and col.11, lines 47-57].

As to claim 59:

Kampe teaches use of a processor and a memory *[see col.4, lines 19-29 and col.11, lines*

47-57]

As to claim 43:

The rejection of claims1 above is incorporated herein in full. Additionally, Kampe

teaches detecting a generation of an event at a first node of the system, determining if the

event is identical to another event that was previously generated, appending only one

copy of the information is appended onto an existing message whether or not the other

event is identical, wherein the message was destined to be propagated to a second node;

and propagating the message along with the information describing the identical event to

the second node *[see col.3, lines 60-65; col.7, lines 27-33; see also, Figs.1 and 10 and*

the discussion beginning at col.3, line 60 and col.11, line 47].

As to claim 44:

Kampe teaches if there exists a stored indication that an identical event was previously

generated and the propagating of the message having the information appended did not

yet occur, then an indication is stored that multiple identical events were generated *[see the discussion beginning at col.13, line 24]*.

As to claims 45-46:

Kampe teaches use of a computer-readable medium and one or more processors *[see col.4, lines 19-29 and col.11, lines 47-57]*.

As to claim 47:

The rejection of claims1 above is incorporated herein in full. Additionally, Kampe teaches receiving, at a database server that is executing on a second node in a distributed system, a message that was transmitted by a first node in the distributed system wherein the message has appended thereon information that describes an event that occurred at least a second time before the message was sent, and a second description of the event is not received despite the second occurrence; and retrieving the information that describes the event signaling processes in the local node that said event has occurred *[see col.3, lines 60-65; col.7, lines 27-33; see also, Figs.1 and 10 and the discussion beginning at col.3, line 60 and col.11, line 47]*.

As to claim 48:

Kampe teaches invoking concurrency control techniques to control concurrent access to a shared-memory event buffer from processes that propagate messages to subscriber nodes and processes that generate events *[see the discussion beginning at col.13, line 24]*.

As to claim 49:

Kampe teaches maintaining information that describes a plurality of events, coalescing the information that describes a plurality of events, wherein the information that describes a plurality of events may be coalesced for the same event into a single event notification *[see the discussion beginning at col.13, line 48]*.

As to claim 50:

Kampe teaches maintaining the information that describes a plurality of events *[see the discussion beginning at col.13, line 24]*.

As to claim 51:

Kampe teaches maintaining the information that describes the plurality of events in a shared-memory event buffer *[see col.4, lines 19-29 and col.11, lines 47-5; see also, the discussion beginning at col.13, line 24]*.

As to claims 53-58:

Kampe teaches use of a computer-readable medium and one or more processors *[see col.4, lines 19-29 and col.11, lines 47-57]*.

Claim Rejections - 35 U.S.C. § 103

7.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

*(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth
in section 102 of this title, if the differences between the subject matter sought to be patented and the prior
art are such that the subject matter as a whole would have been obvious at the time the invention was made
to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be
negatived by the manner in which the invention was made.*

Claims 12-13, 15-18, 21, 33-34, 36-39, 42, 52, and 58 are rejected under 35 U.S.C. §

103(a) as being unpatentable over **Kampe** in view of **Koning et al** (US 6,988,226).

As to claims 12 and 13:

Kampe does not specifically teach the use of a queue as claimed.

Koning teaches the use of a queue *[event queue; see the discussion beginning at col.14,

line 65]*.

It would have been obvious to a person of ordinary skill in the art at the time the

invention was made to modify Kampe with Koning because Koning's teaching would

have provided the capability for effectively managing upgrades of distributed data

processing systems.

·As to claim 15:

Kampe teaches generating an event buffer entry of the shared memory event buffer;

placing an event identifier into the event buffer entry; and inserting the information

describing the identical event into the event buffer entry *[see the discussion beginning at*

col.13, line 48].

Kampe does not specifically teach the claimed partitioning.

Koning teaches partitioning *[partition; see the Abstract and the discussion beginning at*

col.14, line 65].

It would have been obvious to a person of ordinary skill in the art at the time the

invention was made to modify Kampe with Koning because Koning's teaching would

have provided the capability for effectively managing upgrades of distributed data

processing systems.

As to claim 16:

Kampe teaches if between a fastest head pointer and a tail pointer there does not exists a

buffer entry in the shared memory event buffer for the identical event, generating a new

event buffer entry, and the inserting further comprises inserting the information

describing the identical event into the new event buffer entry *[see the discussion beginning at col.13, line 24]*.

As to claim 17:

Kampe teaches if between a fastest head pointer and a tail pointer there exists a buffer entry in the shared memory event buffer for the identical event, updating the buffer entry so that the buffer entry represents the second occurrence *[see the discussion beginning at col.13, line 24]*.

As to claim 18:

Kampe teaches using the shared memory event buffer to determine to which existing message to appended the information describing the identical event *[see the discussion beginning at col.13, line 24]*.

Kampe does not specifically teach the use of a round robin method as claimed.

Koning teaches the use of a round robin method *[round-robin scheduling; see the discussion beginning at col.12, line 40]*.

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Kampe with Koning because Koning's teaching would have provided the capability for effectively managing upgrades of distributed data

processing systems.

As to claim 21:

Kampe does not specifically teach the use of a circular buffer.

Koning teaches the use of a circular buffer *[a circular buffer; see the discussion beginning at col.15, line 53]*.

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Kampe with Koning because Koning's teaching would have provided the capability for effectively managing upgrades of distributed data processing systems.

As to claims 33-34, 36-38, and 42:

Kampe teaches use of a computer-readable medium and one or more processors *[see col.4, lines 19-29 and col.11, lines 47-57]*.

As to claim 52:

Refer to claim 21 above for rejection.

As to claim 58:

Kampe teaches use of a computer-readable medium and one or more processors *[see col.4, lines 19-29 and col.11, lines 47-57]*.

Conclusion

8.   The prior art made of record, see PTO 892, and not relied upon is considered pertinent to applicant's disclosure. Applicant should review these references carefully before responding to this office action.

Contact Information

9.   Any inquiry or a general nature or relating to the status of this application should be directed to the TC 2100 Group receptionist: (571) 272-2100.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to VAN H. NGUYEN whose telephone number is (571) 272-3765. The examiner can normally be reached on Monday-Thursday from 8:30AM 6:00PM. The examiner can also be reached on alternative Friday. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, WILLIAM THOMSON can be reached at (571) 272-3718.

The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you

have questions on access to the Private PAIR system, contact the Electronic Business
Center (EBC) at 866-217-9197 (toll-free).

Any response to this action should be mailed to:
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